Historic, Archive Document

Do not assume content reflects current
scientific knowledge, policies, or practices.

FEB 25 1943
Please return

1.96
R31Fsr

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

LIBRARY
RECEIVED
★ OCT 15 1943 ★
U. S. Department of Agriculture

February 1, 1943

* * * * * * *
* * * * * *
* * * * *
* * * *
* * *
* *
*

Snow on the mountain tops
Assures the harvest of bounteous crops

Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

February 10, 1943

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

RIO GRANDE BASIN

February 1, 1943

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U. S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to January 31	Departure from Normal	Precipitation January	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	3.45	+0.66	0.23	-0.12
Rio Grande	Colorado	3.51	-0.65	0.81	-0.18
Rio Grande	New Mexico	2.58	-0.06	0.36	-0.14
Pecos	New Mexico	3.89	+0.84	0.18	-0.35

Precipitation during January was below normal over the watershed of the Canadian and Rio Grande in New Mexico. Over the headwaters of the Rio Grande in the San Luis Valley, Colorado, the lower elevations were slightly deficient, while at Summitville and Cumbres Passes the precipitation was 6.72 and 6.17 inches, respectively, which is much above normal. The accumulated precipitation since October 1 over these watersheds was, however, above normal for the Canadian and Pecos but below for the main Rio Grande in both New Mexico and Colorado.

SUMMARY OF FEBRUARY 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses in Average	Snow Density			1943 Water Content in percent of	
	Seven Year Avg.*	1942	1943	Seven Year Avg.*	1942	1943		Seven Year Avg.*	1942	1943	Seven Year Avg.*	1942
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
Rio Grande	25.6	19.8	24.3	6.2	4.8	5.7	25	24	24	24	92	123
Canadian River	12.0	7.8	7.1	2.9	2.2	1.5	2	24	28	21	52	68

*Some for shorter periods.

WATER SUPPLY OUTLOOK

Rio Grande

On the Rio Grande watershed and its tributaries in New Mexico and the San Luis Valley in Colorado, the water content of the snow as shown by measurements on 25 snow courses, is on the average, 23 percent greater than it was a year ago and 8 percent less than the seven-year average. The fall and early winter precipitation over this drainage area was below normal. Soil moisture conditions generally poor to fair. Range and crop conditions fair. Reservoir storage continues to improve. The Elephant Butte and Caballo reservoirs now store 2,070,000 acre-feet and last year at this time the storage was 2,252,000, or 92 percent as much. Stream flow over the Rio Grande drainage area is generally about normal but less in comparison with that of a year ago at this time.

Canadian

On this drainage area the snow cover is light. The recent snow surveys on the two courses show the water content to be about 30 percent less than last year and about 50 percent less than the seven-year average. Soil moisture over the Canadian and Pecos drainages is below normal but definitely improved latter part of January. Stream flow continues at a stage above normal. Storage in the Conchas Reservoir is 280,500 acre-feet or 95 percent of capacity. Crop conditions above normal.

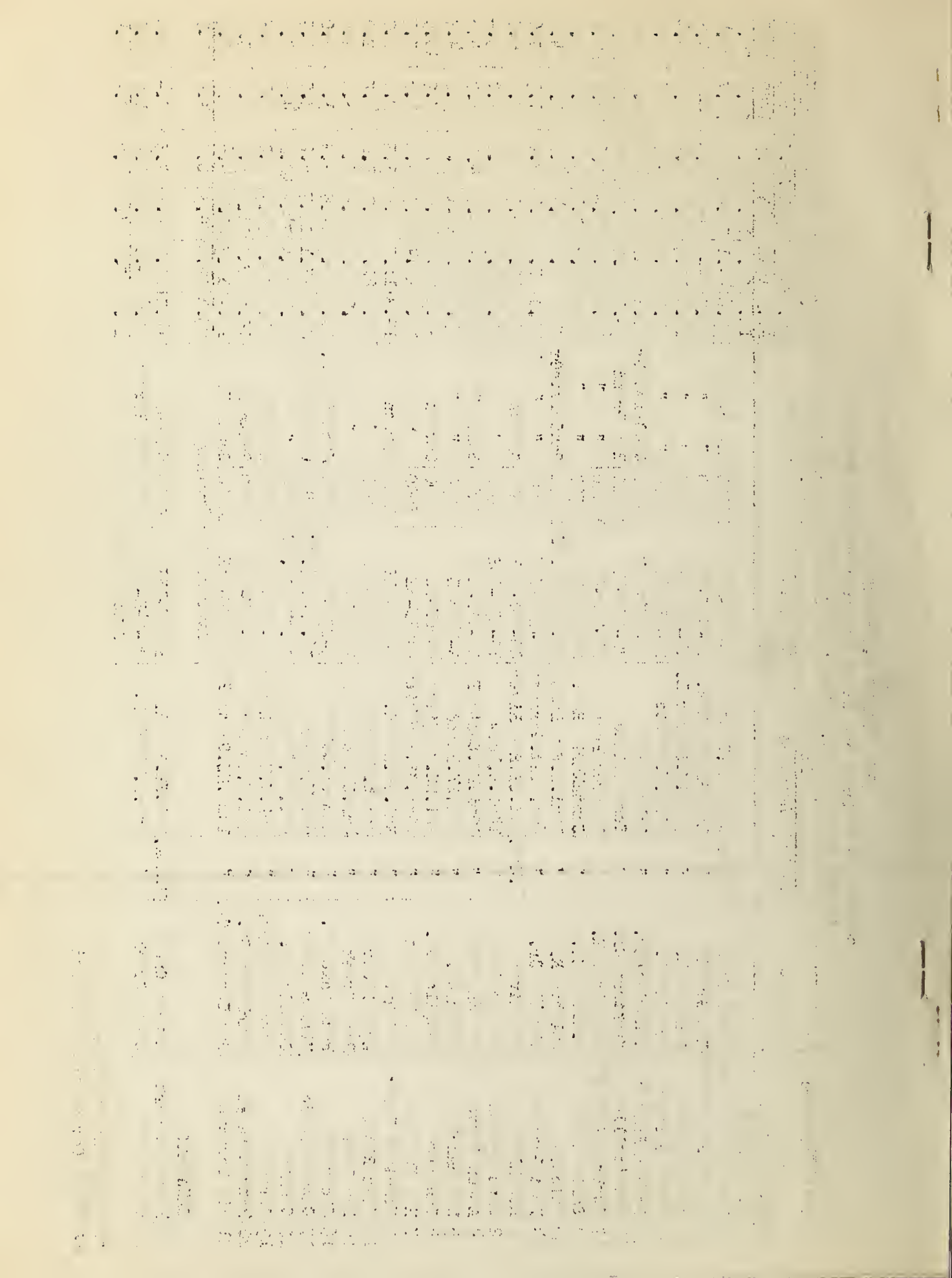
The present outlook for the coming season's runoff in the Rio Grande is generally good because of the heavy snow storm of January 26 when 60 inches fell on Wolf Creek Pass in 36 hours. Later storms have added to the accumulation of snow over the higher elevations on the headwaters of this stream. Storage in the San Luis Valley reservoirs continues to improve. The present filling is less than last year at this time but with prospects that full capacity will be realized in early June. Sanchez Reservoir now stores more than 39,000 acre-feet of water which will be an ample supply to serve the Costilla area this coming season. The best snow months are still ahead.

RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys

Issued February 10, 1943, at Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	Location			Elev.	National Forest	Feb. 1 Snow Cover Measurements					
			State	Locality	Description			Av. Snow Depth			Av. Water Content		
								Av.@	1942	1943	Av.@	1942	1943
								In.	In.	In.	In.	In.	In.
	RIO GRANDE												
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr.Pass	4-37N-2E	10000	Rio Grande	53.6	44.1	70.8	14.8	11.7	20.4
27	Upper Rio Grande	Rio Grande	"	Rio Grande Res.	13-40N-4W	9350	" "	20.4	--	21.2	3.6	--	4.1
47	Silver Lakes	Alamosa R.	"	1 mi.S.Silver L.	15-36N-5E	9600	" "	18.0	11.9	21.9	3.3	2.1	3.4
49	River Springs	Conejos R.	"	10mi.W.Mogote	25-33N-6E	9300	" "	20.2	13.9	24.5	4.1	2.7	5.4
74	LaVeta Pass #2	SanCristoCr.	"	LaVeta Pass	22-28S-70W	9300	SanCristoGr	20.8	16.7	22.2	4.2	2.5	5.1
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	Rio Grande	54.7	56.8	54.5	12.6	15.3	10.0
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	" "	50.8	36.8	54.4	13.6	10.1	15.1
80	Santa Maria	N.Clear Cr.	"	SantaMaria Res.	8-41N-2W	9700	" "	17.1	13.6	23.7	3.5	2.2	4.6
82	Culebra	Culebra R.	"	12mi.E.San Luis	37.2N-105.2W	10000	SanCristoGr	25.0	22.0	20.4	6.0	5.0	4.8
84	Fort Garland	Big Ute Cr.	"	6mi.N.Ft.Garland	13-29N-72W	8200	" " "	10.0	7.5	0.0	2.2	1.5	0.0
1	Red River	Red River	N.Mex.	6mi.SE.Red River	29-28N-15E	9500	Carson	20.5	18.1	16.9	5.0	3.9	5.2
2	Taos Canyon	Rio de Taos	"	14mi.E.Taos	10-25N-15E	9000	"	18.3	14.9	13.4	5.2	3.7	5.4
4	Aspen Grove	Rio En Medio	"	10mi.NE.Santa Fe	12-18N-10E	9100	Santa Fe	21.9	12.4	23.8	4.9	3.0	4.6
5	Lee Ranch	Jemez Cr.	"	5mi.NW.Bland	3-18N-4E	9050	" "	27.3	20.2	17.1	5.7	5.0	4.3
6	Canjilon	Canjilon Cr.	"	8mi.NE.Canjilon	4-26N-6E	9500	Carson	36.9	24.7	34.9	11.8	8.9	10.3
7	Rio Nutrias	Rio Nutrias	"	10mi.SE.ParkView	6-27N-5E	7900	"	19.6	13.4	16.3	4.3	3.6	3.5
9	Hematite Park*	Red River	"	3mi.SE.Red R.	8-28N-15E	9500	Carson	14.3	11.5	8.8	3.3	2.4	2.0
12	Tres Ritos	Agua Piedra	"	7mi.W.Holman	23-22N-13E	9000	"	22.0	21.6	16.9	5.0	4.8	2.9
15	Pay Role	Rock Creek	"	4mi.SE.Hopewell	16-28N-7E	10000	"	25.0	15.4	17.6	7.5	3.4	3.4
16	Jicarilla	Rock Lake Cr.	"	15mi.S.Dulce	9-29N-1W	8500	JicarillaR.	18.6	12.9	14.5	4.4	3.2	3.0
17	Chama Divide	Willow Creek	"	6mi.W.Chama	36.9N-106.7W	7750	Off Forest	22.5	13.1	19.7	5.2	3.0	3.7
18	Chamita	Chamita Cr.	"	6mi.NW.Chama	36.9N-106.7W	8500	" "	39.0	20.4	34.6	10.2	4.5	7.5
19	Cordova	Cordova Canyon	"	2mi.W.Tres Ritos	22-22N-13-E	10100	Carson	30.3	34.7	25.9	7.0	8.1	5.8
20	Panchuela #2	Panchuela Cr.	"	2mi.N.Cowles	27-19N-12E	8300	Santa Fe	15.3	7.8	11.5	3.5	1.8	3.0
21	Big Tesuque	Big Tesuque Cr.	"	10mi.NE.Santa Fe	17-18N-11E	10000	Santa Fe	16.9	12.3	21.5	4.6	3.2	5.9
					Average for Drainage			25.6	19.8	24.3	6.2	4.8	5.7
	CANADIAN												
9	Hematite Park	Moreno Creek	N.Mex.	3mi.SE.Red R.	8-28N-15E	9500	Carson	14.3	11.5	8.8	3.3	2.4	2.0
10	Ocate Mesa	Ocate Creek	"	3mi.E.Black L.	25-24N-16E	9200	Off Forest	9.6	4.0	5.3	2.4	1.9	0.9
					Average for Drainage			12.0	7.8	7.1	2.9	2.2	1.5

*On adjacent drainage

@Average for period of record